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USE OF CASE MANAGEMENT ROLE FUNCTIONS BY AIR FORCE NURSES

by

MOLLY JO KUSIK

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Captain, United States Air Force Nurse Corps

108 pages

Master of Science

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1996

Abstract

Case management (CM) is used by healthcare systems to coordinate quality patient care and reduce escalating healthcare costs. No single health profession has been identified as best-suited for the CM role. Case Management will be implemented by the Air Force Medical Service (AFMS) and nurses should be the case managers.

The purpose of this study was to describe and evaluate the extent to which the role functions of CM are incorporated within the current practice of Air Force (AF) nurses. To assist in the decision-making process on CM model and selection of profession, a baseline assessment of the role functions that AF nurses currently use in practice was needed.

A descriptive survey design answered the research questions: (1) What are the CM role functions used by AF nurses in their current practice; (2) How frequently are the CM role functions used?; and, (3) What are the opinions of AF nurses regarding implementation of CM? The sample was 38 Air Force nurses representing all sizes of AF Military Facilities (MTFs). The mailed survey tool provided data on demographics, use of identified CM role functions, and one open-ended question asking for a written, opinion response regarding implementation of CM.

Descriptive statistics were used to analyze the use of CM roles. Eighty-one percent of the respondents reported knowledge of CM. Six of the nineteen CM role functions were used in greater than three-fourths of the respondents' practices. Another eleven of the CM role functions were used in greater than

one-half of the respondents' practices. Seventy-six percent of the respondents were in agreement with implementing CM in the AFMS. The results provide strong support for the use of nurses as the case managers in the AFMS as AF nurses use the CM role functions. Recommendations for education and implementation are provided.

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INPUTS:

USE OF CASE MANAGEMENT ROLE FUNCTIONS BY AIR FORCE NURSES

by

MOLLY JO KUSIK

B.S.N., California State University, Long Beach 1978

A thesis submitted to the

Faculty of the Graduate School of the

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School of Nursing

1996

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Use of Case Management Role Functions by Air Force Nurses

Thesis directed by Associate Professor JoAnn G. Congdon

Case management (CM) has been adopted by many healthcare systems as a way to coordinate quality patient care and reduce escalating healthcare costs. No single health profession has been identified as best-suited for the CM role. Case Management will be implemented by the Air Force Medical Service (AFMS) and nurses should be the case managers as current literature supports their choice.

The purpose of this study was to describe and evaluate the extent to which the role functions of CM are incorporated within the current practice of Air Force (AF) nurses. To assist in the decision-making process on CM model and selection of profession, a baseline assessment of the role functions that AF nurses currently use in practice was needed.

A descriptive survey design was chosen to answer the research questions: (1) What are the CM role functions used by AF nurses in their current practice; (2) How frequently are the CM role functions used?; and, (3) What are the opinions of AF nurses regarding implementation of CM? The sample was 38 Air Force nurses representing all sizes of AF Military Facilities (MTFs).

The mailed survey tool Case Management Role Functions Survey, developed by the author, provided data on demographics, use of identified CM role functions, and one open-ended question asking for a written, opinion response regarding implementation of CM. The survey was developed through a literature search of CM roles. The instrument was pilot tested by a group of nurses currently employed as case managers for content validity and clarity of questions. Data collection occurred over a five week period in January-February, 1996.

Descriptive statistics were used to analyze the use of CM roles. Eighty-one percent of the respondents reported knowledge of CM. Six of the nineteen CM role functions were used in greater than three-fourths of the respondents' practices. Eleven of the CM role functions were used in greater than one-half, and the remaining two role functions were used in over one-fourth of the respondents' practices. Seventy-six percent of the respondents were in agreement with implementing CM in the AFMS. The results provide strong support for the use of nurses as the case managers in the AFMS as AF nurses use the CM role functions. Recommendations for education and implementation are provided.

The form and content of this abstract are approved.

Signed_____
Faculty member in charge of thesis

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TABLES

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CHAPTER I

INTRODUCTION TO THE STUDY

> Case management is a collaborative process which assesses, plans, implements, coordinates, monitors and evaluates options and services to meet an individual's health needs through communication and available resources to promote cost-effective outcomes (Case Management Society of America, Smith, 1995, p. 9).

Case management is not a new concept or model, but is rapidly gaining favor as a way of addressing the problems of increasing cost, fragmentation, accessibility, and improving quality of care. Case management addresses these problems by ensuring that the patient moves through the healthcare system in such a way that the goals and the needs of the client are valued and that care received is necessary and timely. The case manager acts as coordinator of care and services of the different facets of the healthcare system, and as an advocate to the patient and family (Bower, 1992; Cronin & Maklebust, 1989; Ethridge, 1991). Case management is client-centered and the case manager seeks to ensure that outcomes are addressed and achieved whether they be related to patient, provider, or payer.

The role of the case manager includes a specific set of behaviors, functions, specialized skills, and knowledge that provides for successful patient outcomes (Smith, 1995). A useful general role description for a case manager was given by Zander (1995):

> Coordinates, negotiates, procures, and manages the care of complex patients to facilitate achievement of quality and cost [for] patient outcomes. Works

> collaboratively with interdisciplinary staff internal and external to the organization. Participates in quality improvement and evaluation processes related to the management of care (p. 2).

Within this role description are the role components or functions of a case manager. The role functions for this research are defined as the behaviors, skills, and knowledge specific to the role of a case manager.

The nursing profession is still struggling with role transition and identity within the healthcare system. Howe (1994) stated that "one of the hidden agendas of case management is to establish once and for all the role of the nurse--and for that matter, the role of the entire health team--while delivering care" (p. xx).

There is research and information available to support the importance of nurses as case managers. Cronin and Maklebust (1989) reported on the nursing case management position in their care facility that resulted in gaining reimbursement from third-party payers, savings on materials, reduction of unnecessary services, improvement in the hospital's quality assurance system, and a reduction in the average length of stay (LOS) of approximately two days. Trinidad (1993) made the case that the functions of case managers "call for the interplay of the five CNS [clinical nurse specialist] roles: expert practitioner, educator, researcher, executive, and consultant" (p. 222). Trinidad also believed that the case management model assures that the CNS can be empowered to perform the accepted roles of

the CNS. Soehren and Schumann (1994) agreed with Trinidad that a nurse, especially one with advanced practice skills and knowledge, is well-suited to be a case manager and possesses the ability to "carry out the role to its greatest potential" (p. 125).

Background of the Problem

The Air Force Medical System (AFMS) is in transition due to downsizing of the military and to decreasing military funds. Military treatment facilities (MTF) have closed wards and clinics, decreased staffing, and, in some facilities, cut services. The Air Force is studying implementation of case management within its healthcare system. To aid in the desired goals of case management, an evaluation of the health professional best suited to this role would be important.

The largest transition in military healthcare is the new Department of Defense (DoD) managed care program called TRICARE (TRICARE is not an acronym but refers to the tri-services: Army, Air Force, and Navy, and the healthcare system.) TRICARE is designed to improve access to care for beneficiaries, assure affordable and high quality care, provide additional choices, and decrease or control overall DoD medical costs. TRICARE is a three-level program, offering three different benefit levels in which large segments of the eligible population will be contracted out of the MTFs. One of the components of TRICARE is case

management; however, the Air Force nurse may not be in a position to act as a case manager. The Air Force often will hire civilian or contract nurses for new specialty positions, a position that requires continuity over extended time, or a role that is in transition.

Each year the Air Force sends nurses to civilian institutions for advanced nursing degrees. Frequently these nurses return from civilian schools to positions as charge nurses, shift supervisors, or staff nurses. Some, but not all, are placed in advanced practice roles. Due to their advanced practice preparation, many master's prepared Air Force nurses may be qualified to act as a case manager, and many already may be functioning in aspects of this role, but without the title or acknowledgement. Recent studies have suggested that a clinical nurse specialist educated at the master's level is well suited to perform the functions of the case manager (Cronin & Maklebust, 1989; Schull, Tosch, & Wood, 1992; Trinidad, 1993). The master's prepared nurse brings a broad base of knowledge, experience and skills to this role. The nurse is educated to consider the entire spectrum of needs that the patient and family may experience, and has the skills of critical thinking and problem-solving that are necessary as a case manager (Bower, 1992). Air Force nurses often go beyond their job description to meet the needs of their patients or patients' families. Also, the large pool of master's prepared nurses

in the Air Force Nurse Corps could be the group most suited to a rapid transition to the role of case manager due to the skills and knowledge they possess along with the role components of the CNS.

Problem Statement

No published documentation of the use of case management role functions by Air Force nurses is available. To make recommendations regarding implementation of the role or to address educational needs, a baseline assessment of the types of role functions that Air Force nurses currently use in practice is necessary.

Case management will be included in the TRICARE managed care contract; however, Air Force nurses may be excluded from the case management role. The Air Force Medical Service has not yet implemented a program of case management within the healthcare system. The Army has had such a program in some facilities since 1992 (Jennings & Brosch, 1994). Air Force nurses already may be performing some of the case management role functions within their practice and may have expert opinions as to whether case management should be instituted as part of their role. If Air Force nurses currently perform case management role functions for their patients, they are ideal candidates to be chosen to fill the case manager positions. Also, many Air Force nurses have advanced education and experiences that should be used to the full extent. Military nurses should not be

excluded from new or transitional roles unless there are specific documented reasons for placing a civilian nurse in the role.

Purposes and Objectives of this Study

The purpose of this study was to describe and evaluate the extent to which the role functions of case management are incorporated within the current practice of Air Force nurses. This study also sought data on whether the nurses had knowledge of case management and from where their knowledge was gained. The specific aims of this study were to:

1. Describe the types of case management role functions practiced by Air Force nurses.
2. Identify the frequency that the role functions were performed in current practice.
3. Determine the opinion of Air Force nurses on the implementation of case management for their patient populations.

Research Questions

The study asked the following questions: (1) What are the case management role functions used by Air Force nurses in their current practice?; (2) How frequently are the case management role functions used?; and, (3) What are the opinions of Air Force nurses regarding implementation of case management?

Significance of the Study

Knowing how Air Force Nurses are currently practicing case management role functions will help make future decisions about which profession or discipline is appropriate to fulfill the case management needs of the Air Force Medical Service, the Air Force Nurse Corps, and the patients being served. This knowledge can also be used to make decisions regarding education that would be needed to implement the role of case management. In addition, the opinions of Air Force nurses can reveal important information about their current practice and the needs of their patients.

Case Management is an emerging practice role that can improve the coordination of nursing care, discharge planning, timeliness and appropriateness of services, patient education, and coordination of the healthcare team and plan, resulting in improved quality of care and cost savings. It is important that this be offered to all patients who could benefit from it.

Research of this type can add to the body of knowledge about case management. It can strengthen the belief that nurses are well qualified for this role due to their use of the nursing process which case management mirrors, as its present use grew out of primary nursing (Cohen & Cesta, 1993; Zander, 1988a).

Finally, case management models have been shown to increase the satisfaction and retention of nurses (Cohen & Cesta, 1993; Bower, 1992; Zander, 1985). The Air Force Medical Service should examine all ways of providing services that can lead to quality and increase the satisfaction of personnel. Total Quality Management (TQM) was embraced by the Air Force Medical Service in the 1980s. "TQM is a management approach with a commitment of customer expectations, quality, and cost containment. Visionary leadership, commitment of top management and the entire organization...are essential for successful TQM initiatives" (LaRochelle & Shaninpour, 1995, p. xiii). The healthcare industry as a whole has incorporated the leadership principles of TQM into continuous quality improvement (CQI) which is defined as "a continuous effort by all members of the health care team to meet the quality expectations of customers" (LaRochelle & Shaninpour, p. xiii).

TQM as practiced by the Air Force Medical Service recognizes many customers including, but not limited to, patients and providers. Introducing nursing case management into the military facilities could potentially increase satisfaction among patients and Air Force nurses by reducing fragmentation, costs, and unnecessary procedures or tests, and increasing autonomy, accountability, and empowerment.

Methodology

A mailed questionnaire was used to determine the case management role functions in current practice by a sample of 38 Air Force nurses. This type of research is a descriptive survey design used to gather data and learn more about a population (Burns & Grove, 1993). Descriptive research allows the researcher to make changes to existing practice and plan future educational needs. Survey research is economical and the researcher can gather "a great deal of information" that is "surprisingly accurate" (LoBiondo & Haber, 1994, p. 234). Data analysis was performed using descriptive statistics. Demographic data was obtained to determine each nurse's current area of practice, education level, amount of time in his/her current position, the number of beds in the facility, and their familiarity with case management. One open-ended question was asked to determine whether Air Force nurses thought the role of case manager would benefit their patients.

Definition of Terms

The following terms were used in this study:

1. Nursing Case Management (used interchangeably with case management)- a role and process that is patient-centered. The case manager negotiates, procures, and coordinates the care needs of individuals with complex situations. Costs, needs, and resources are balanced for the best of possible outcomes. Case management may

be episode and/or continuum based and is coordinated with the entire healthcare team.

2. Air Force nurse- a nurse currently serving on active duty in the Air Force Nurse Corps.
3. Case management role function- a set of behaviors, skills, and knowledge that is central to case management.
4. Military Treatment Facility (MTF)- a military healthcare facility. In this study the MTF will be Air Force only and will have both inpatient beds and outpatient clinics.

Chapter Summary

This chapter provided an introduction to the problem and the purpose of the study was described. Specific aims of the study and the research question were presented. The significance of the study and definitions of terms were explained.

In Chapter II, a review of case management literature will be discussed. Also, further discussion of the military healthcare system will occur.

Chapter III will describe the methodology used in this study. It will include a description of the research design, sampling procedure, sample and size, instrument development, data collection, and data analysis. Also included is the protection of privacy and rights of the respondents.

In Chapter IV the results of the findings will be presented. Descriptive and statistical findings will be reported.

Chapter V will discuss conclusions based on the study findings. Recommendations, the implications of findings, and summary of this study are presented.

CHAPTER II

REVIEW OF THE LITERATURE

The focus of this chapter is to discuss the literature and research findings related to case management role functions. In addition, this chapter presents an overview of case management and managed care, explores nursing case management, and introduces the reader to the Air Force Medical Service and TRICARE. The intent of literature review was to build a background for the questions asked by the researcher and to provide a context for the study findings.

Case Management Role Functions

Case management models may vary from one setting to another but there is a core of role functions, skills, and tasks that comprise the role. These case management role functions are outlined in the most complete detail by Bower (1992), Cohen and Cesta (1993), and Trinidad (1993). Other authors discussed the roles, but the cited authors were chosen by the researcher due to their comprehensive and expanded lists of case management role functions. The three lists are similar in the concepts and functions presented.

Evaluation of the Case Management Role

In a search of the literature few studies were found that specifically examined use of case management roles by clinicians. Sterling, Noto, and Bowen (1994) examined the case management roles as practiced by three clinical nurse

specialists and one social worker in a nonexperimental multiple case study design. Data were collected through interviews, nonparticipant observation, and patient chart audits. All four clinicians were employed as case managers (CM). The major question of the study was: How is CM practiced by clinicians?, and one purpose of their study was to determine CM roles as demonstrated by four clinicians. The researchers used a checklist they developed that was based on the American Nurses Association list of case manager functions and from case manager functions as reported by another author. Their checklist was used in the nonparticipant observation with each clinician. They found "the percentage of case management functions observed in each case study ranged from 69% to 75% [of practice]" (p. 199). The researchers reported that more research in the area of role use is needed and that "exposure to formal CM models and theory could strengthen clinical practice in this [case management] area" (p. 201). Sterling, Noto, and Bowen (1994) also reported that generalization of the study's findings to other CNSs is inappropriate; but that analytical generalization would be a more fitting application of their findings.

Stetler (1987) reported on an evaluative study using a questionnaire (which the author described as a diary) developed by the author. The questions were "a mix of open and closed-ended questions designed to gather, for a sample

of cases, preliminary information relative to (a) achievement of the goals of NCM [nurse case management] and (b) critical components of the case management process" (p. 23). The sample was 50 experienced primary nurses who were piloting the role of case manager. Data were collected for approximately six weeks. A total of 111 completed diaries were collected. One-third of the diaries were reviewed in order to develop the content analysis system. Five nurses were trained to code the data with a mean interrater reliability of 92% (range of 73-100%). Results were reported as "available for the majority of the analyses conducted and in general provide evidence that the goals of Nursing Case Management can be achieved" (p. 23).

In addition to the goals, the diaries were coded to provide information on the strategies used by the nurse case managers. These data were described as "structures" and "processes" (p. 24) that were analyzed by the author alone. The processes included: "Nurse-to-nurse communication and support throughout the system; pre-admission and post-discharge communication regarding the patient and family; and direct communication with the attending physician" (p. 23). This research revealed little about the role processes or role functions of a case manager. The sample had been asked to complete up to four diaries. The results showed 46% returned one and 24% submitted four. This is in the range of reported response rates for mailed questionnaires,

but the data were collected within the author's hospital of employment. The response rate was low. The author's findings of case manager processes did not correspond to published lists of case manager role functions but indicated role functions expected of a staff nurse. The reported data did not further the knowledge of case management roles or processes.

Nuccio et al. (1993) reported on a descriptive research survey of staff nurses about their perceptions of the role functions of clinical nurse specialists (CNSs). The instrument used was the Clifford Clinical Specialist Functions Inventory (CCSFI) which provides "objective, quantitative data about the staff nurse perception of functions important to the CNS role" (p. 124). The authors reported reliability of 0.79 to 0.89 (alpha-coefficients) for the pretest of 52 graduate nursing students and 0.83 to 0.97 for the study respondents. A response rate of 38% was achieved from the convenience sample of 636 registered nurses in the three acute care campuses in the affiliated medical centers. The study identified the most important role functions of the CNS as reported by the sample of staff nurses and provided support for "the traditional roles/functions found in the literature: consultant, educator, researcher, and patient care provider" (pp. 126-127).

Nuccio et al. stated that further research on the impact and contribution of the CNS is needed and recommended the CCSFI scale could benefit from an update to include case management concepts. Of interest to this researcher is the fit between the role functions of the CNS and the role functions of the case manager. In the lists provided by the authors a match was found for six of the twelve case manager role functions chosen for inclusion in the study by this researcher which could indicate support for these role functions as being valued by staff nurses.

Trinidad (1993) noted that the clinical nurse specialist (CNS) is the ideal nursing level to assume the case manager role. "The functions of the case managers...call for an interplay of the five CNS roles: expert practitioner, educator, researcher, executive, and consultant" (p. 222) and "the value of the case management model for the CNS is in its emphasis on clinical expertise and leadership expressed in the case manager's functions....the case management model gives the CNS autonomy in initiating and directing care" (p. 223).

The case management role incorporates those nursing roles of the CNS that are already assimilated by the advanced practice nurse and expands them into a new arena of practice. This expansion of the nursing role can also include direct patient care that a social worker or nonnurse

could not bring to the role (Sterling, Noto, & Bowen, 1994). Grau (1984) asserted:

> case management is not a profession but a set of functions and responsibilities to be carried out by persons capable of doing so....but for the client the nature of the case manager's background is important. It influences the kind of direct care the case manager provides as well as other aspects of service delivery and monitoring (p. 373).

The nurse is the critical link between the patient and the healthcare team. The clinical nurse specialist has advanced clinical knowledge and critical thinking skills needed to provide quality, individualized care (Nugent, 1992).

Case Management

Case management is not a new concept. It has been a part of healthcare since the early 1900s. Case management has long been used as a way to link together clients, patients, and services. Case management puts care coordination into the forefront of today's healthcare redesign. Case management began in community health nursing programs and was later used as a way of providing the extended community services needed by discharged psychiatric patients (Bower, 1992; Lyon, 1993; Grau, 1984). In the 1950s, case management aided in decreasing costs and ensuring appropriate resources for psychiatric patients. Resource-based case management was used in Worker's Compensation Insurance management to control medical costs of injured workers. Due to the success of different models

of case management, private insurance carriers began to develop case management strategies for those patients with potential for high cost claims (Lowery, 1991).

Use of case management is on the increase by hospitals and healthcare systems due to the changes and constraints within the industry. Major shifts in the practice and delivery of healthcare services have resulted in trends such as rationing or limited budgets, increased control mechanisms for quality assurance, emphasis on productivity and efficiency, legal concerns, and efforts to reduce fragmentation (Cohen & Cesta, 1993). Case management has been shown to have a positive effect on all of these trends.

Additionally, the Joint Commission on Accreditation of Health Care Organizations (JCAHO) now requires that health care providers must demonstrate that they provide a "continuum of care" (The Joint Commission, 1995, p. 23). Implementing case management could help to provide this continuum of care as the "ultimate goal is to achieve planned care outcomes by brokering services across the healthcare continuum" (Bower, 1992, p. 3).

Managed Care

The terms "case management" and "managed care" are often used interchangeably but do not define the same concepts. Managed care is a strategy that is used by insurance carriers and healthcare delivery organizations to lower the cost of healthcare and provide controls over the

resources available to providers and patients. Managed care typically limits access to a primary provider who decides what types of services each patient will receive. The managed care system uses quality as an outcome, but is founded on the principle of cost-containment. Case management, together with clinical pathways, are important to the success of a managed care system. Managed care is a structure that seeks to standardize care into a pattern or pathway that has been found to work in the majority of previous cases. Managed care manages the patient's environment through the use of only those therapies or resources that are appropriate and necessary. "In short, managed care implies a consistency of plan in that what is done to or for a given patient is consistent even though individual caregivers may change" (Cohen & Cesta, 1993, p. 33).

Nursing Case Management

In contrast, nursing case management is patient/client-focused. Bower (1992) stated "the overall purpose of case management is to advocate for the patient through coordination of care which reduces fragmentation and, ultimately, cost" (p. 2). Nursing case management also stresses collaboration and teamwork between the disciplines to arrive at the best outcomes for the patient. Nursing case managers certainly look at finances, both the patient's and the facility's, but the focus on the patient ensures

that the outcomes will be equalized, yet in the interest of the client. Cohen & Cesta (1993) wrote that "because nursing case management balances the cost and quality components of nursing service and patient care outcomes, it is successfully evolving into a professional model that is both sensitive and responsive to current practice demands" (p. 6).

Cost savings. Nursing case management has been studied and many authors have reported the outcomes in the literature. Most hospitals that have implemented nursing case management have had costs reduced through shorter lengths of stay (LOS) or appropriate use of resources. Nursing authors report that even though the LOS had been shortened, nursing case management also decreased the readmission rate and resulted in patients going home with adequate teaching and resources for care (Bower, 1993; Ignatavicius & Hausman, 1995).

Air Force nurses Williams, Blue, and Langlois (1995) conducted an experimental study of two groups of randomly assigned chronically ill patients. The "purpose of this study was to determine whether home visits by military staff nurses could reduce readmissions of chronically ill medical patients" (p. 30). The three nurses provided nine home visits to each of thirty-five experimental group patients. The control group patients received routine health care that did not include home visits by a military nurse. The

researchers concluded "that the role the military nurses fulfilled was that of case managers in a managed care setting in addition to home health care providers" (p. 31). The actual readmission rate of these patients was reduced from the pre-study rate of 17% to 4.89%. Using the figures provided in the study of the average cost per day per patient of $493 and the average length of stay of 7.1 days, the intervention resulted in cost savings as large as $116,384 for the experimental group. "The control group comprised 40 patients. Thirty-five percent were readmitted twice during the study; 8% were readmitted three times; and the remaining 8% were readmitted four times" (p. 32). The authors recommended "that the DoD seriously consider utilizing experienced military nurses to provide home visits and incorporate the visits into the Managed Care initiative" (p. 33). This study lent support specific to the Air Force Medical Service in the cost savings and decreased readmissions provided by case management.

Ethridge and Rusch (1989) reported the results of multiple regression studies in their institution on patients with respiratory disease. The results showed that the actual decrease in LOS in the respiratory unit for patients who received nursing case management was 3.2 days. "If a nurse case manager was involved in a patient's care, that patient spent fewer days in the hospital than a patient who did not have a case manager ($F=5.59$, $p<.001$)" (p. 154). The

authors did not report the sample size, length of data collection, nor the actual costs saved.

Schull, Tosch, and Wood reported a quantitative evaluative research study using CNS nurse case managers that collected data on patients during hospitalization and for 90 days after discharge. Average LOS and readmission rates were calculated for nurse case managed patients and those who did not receive case management. Patients were grouped by diagnosis. In addition, emergency room visits and follow-up appointment compliance were calculated for case managed and non-case managed groups with epilepsy and stroke diagnoses. Forty-two epilepsy patients were randomly assigned to case managed or non-case managed groups. The case managed patients had a LOS of 5.60 days and an appointment compliance of 82% compared to the non-case managed patients' LOS of 7.57 days and 69%, respectively. A post-test only design was used to study the stroke patients response to nursing case management. Sixty patients were randomly selected over a six-month period and assigned to case management or control (non-case managed) groups. The two groups were found to be similar for study characteristics. The average LOS for the case managed group were 2.9 days less, total billed hospital charges were 21.5% less, and the emergency room use was 87.5% less than the control group. Appointment compliance for 75% of the case

managed group was 80-100%, while only 33% of the non-case managed group were 80-100% compliant.

Trella (1993) described a pre-test/post-test design study of a geriatric acute care medical unit that implemented a multidisciplinary team model of case management. The actual case manager was a gerontologic clinical nurse specialist. Data on LOS and cost per patient day were gathered before and after implementation of case management. The results were favorable: LOS decreased by two days, cost per patient day was approximately $50 less, and the reimbursement index was almost 20% higher than prior to case management. An overall savings of $40,000 per month were reported for the case management unit. Sample size was not reported, nor time-length of data collection. The author stated "the model is successful because it has provided individualized patient care and resource utilization for complex patients without compromising the quality of care" (p. 26).

Edelstein and Cesta (1993) gave an account of a study of 160 diabetic patients who received nursing case management. Data were collected for average LOS, readmission rate, and blood glucose control. The patients were divided into three groups: those with a principle diagnosis of diabetes (n=85), those with a secondary diagnosis of diabetes (n=49), and 26 antepartum patients who were admitted for blood glucose control. A retrospective

patient sample served as the control group. Data were collected by chart audits. The average LOS of the patients with a principle diagnosis of diabetes was 4.14 days as compared to the retrospective LOS of 9.9 days, resulting in a 58% decrease of LOS. The average LOS for patients with a secondary diagnosis of diabetes was 10.7 days compared to the retrospective LOS of 11.8 days, resulting in a 14% decrease in LOS. The antepartal patients had a LOS of 6.66 days, but no data were reported for the retrospective group. The readmission rate was 7.33% within 30 days but only two antepartal patients were admitted for diabetes-related reasons, all others were admitted for non-diabetes problems. Blood glucose control was reported as: excellent (28.7%), good (26.9%), fair (42.7%), and poor (1.46%). This data revealed that over 50% had excellent (60-150mg/dl) or good (150-200mg/dl) blood glucose levels when case managed.

These studies suggested that nursing case management, or multidisciplinary team case management led by an advanced practice nurse, can result in significantly decreased LOS and cost savings for the units and hospitals that implement case management. The studies cited used quantifiable measures, comparisons of matched groups, and random selection for most groups.

Many studies showed an average LOS shortened by 2 days, but even this resulted in a yearly savings of thousands of dollars for both patients and facilities. "Many nonnurses

do not understand that when length of stay is shortened, the intensity of the nursing process increases....the same outcomes must happen in less time" (Zander, 1988b, p. 504). The ability to shorten LOS and still have quality outcomes places nursing case management in a strong position in today's managed care environment.

Care planning. An important aspect of nursing case management is the coordination and planning of patient care. The case managers have the authority and accountability that is needed to coordinate care among the many providers and services that their caseload may require (Bower, 1992). The nurse has the responsibility to make the care individualized and cost-effective.

The nurse case manager individualizes care through a thorough assessment of the patient's physical, emotional, psychological, social support, financial, and discharge needs at the time of admission and throughout the episode of care (Bower, 1992; Cohen & Cesta, 1993). This is extremely important in today's healthcare environment. JCAHO requires assessment of all patients. The 1995 Joint Commission Manual required that "each patient's physical, psychological, and social status is assessed" (p. 5) and "the information generated through the analysis of assessment data is integrated to identify and prioritize the patient's needs for care" (p. 9). The JCAHO required

assessment takes place both at the initiation of care and throughout the care process.

Bower (1992) noted that "there is a general consensus that the principal role or function of case managers is that of coordinator of care and services. This function is the basis for all other aspects of the case management role" (p. 22). The case manager plans care by integrating the knowledge gained through assessment, the providers' orders, and, if one is in place, the critical path for the diagnosis. Care is monitored throughout the course of illness and any variance from the plan is examined and changes to the care are initiated (Bower, 1992; Cohen & Cesta, 1993; Hicks, Stallmeyer, & Coleman, 1993; Dring, Hiott, & Elliot, 1994,). Coordination of care and variance analysis ensures that the patient's course of care is constantly monitored, reassessed, and that the plan is updated.

Monitoring of the plan of care also adds to the quality of care and creates opportunities for documentation of evaluation and progress towards goals. Evaluation is needed so that care is timely, useful, and cost-effective. Frequent evaluation allows the case manager to intervene with appropriate teaching, consultations, or referrals when necessary (Ethridge & Rusch, 1989). Needs are identified over time rather than at a one-time discharge planning meeting or the day prior to discharge. In addition, ongoing

evaluation allows the case manager and the healthcare facility to improve their caregiving, quality, effectiveness, and cost-savings.

Discharge planning. Discharge planning is important to the continuity of care as the patient transitions from the hospital to home or another care facility, and is tantamount to cost-effective, quality care. According to the American Nurses' Association home care document (1986) "The nurse is responsible for the client's appropriate and uninterrupted care along the care continuum, and therefore uses discharge planning, care management and coordination of community resources" (Standard VIII, p. 14). JCAHO (1995) required that "care, treatment, and rehabilitation necessary after the patient's discharge from the organization are planned and coordinated" (p.12). Not planning the patient's discharge can be disastrous to both the patient and the facility. Successful discharge planning requires early assessment of the patient/family situation and resources, and the determination of how much they will participate in the process (Clemon, Eigsti, & McGuire, 1991). In addition, the nurse case manager is in the best position to provide these services. Lyon (1993) stated that "staff nurses cannot be expected to provide patient care and coordinate post-discharge services for patients. It is also not reasonable to expect staff nurses to remain knowledgeable about community services available..." (p. 168). The nurse

case manager has the skills and the time to provide comprehensive discharge planning.

The case manager has experience with assessment and planning for discharge. Discharge planning is multidisciplinary in nature, but has traditionally been taught and expected within the practice of nursing. The nurse works with the team to identify needs early, so that teaching and resources are introduced at the appropriate times in the care process. Discharge planning "demands knowledge, skill, and experience to be implemented effectively. It demands knowledge of community resources, an ability to problem solve and set priorities, and the ability to collaborate and coordinate" (Clemon, Eigsti, & McGuire, 1991, p. 307).

The nursing case management approach ensures that the patient and family interests are addressed by including the patient and family in the care team. Patient/family interests are included because of nursing's strong commitment to advocacy. Case management usually involves weekly or even daily meetings with the team members so that no one loses sight of the overall goals and plan (Cardinal, Kraushar, & Wagie, 1994; Dring, Hiott, & Elliot, 1994).

Appropriate and timely discharge planning can help to have resources in place, or teaching accomplished, so that the patient is ready for discharge within the number of days allotted to the diagnostic related group (DRG) for the

admission. This can save money for both the patient and facility through both well-timed discharge and no further need of readmission for the same problem.

Patient satisfaction.

> There is a growing credibility gap between consumer and provider as the battle for control of health care continues between providers and insurers....Rather than a more knowledgeable consumer, we have more frustrated consumers who think they are choosing the right insurance plan "for their needs," not knowing how those needs could change overnight....Consumers are learning the hard way that quality, cost-effective care is as hard as ever to come by....They find that their insurance does not cover the very thing they need for recovery....They have also rediscovered that a smooth course is still a rare commodity (Zander, 1988b, p. 506).

Implementing a system of case management can help to close the credibility gap of which Zander speaks. Patients and providers alike are concerned about the fragmentation in healthcare today. The wide-spread acceptance of DRGs forced the healthcare system to look at the costs of care. Nursing case management brings the focus back to the patient and quality.

A number of articles discuss research about patient satisfaction with nursing case management. Ethridge (1991) reported that extensive interviews with patients who had experience nursing case management had helped researchers at Carondelet St Mary's to:

> Identify outcomes that are meaningful to our clients. For instance our clients consistently tell us that nurse case managers have helped them recognize and manage early warning signs of acute exacerbation of their chronic illness. This, they feel, enables them to remain at home and out of the hospital. Our

> clients also tell us they feel more confident and competent in caring for themselves (p. 25).

Ethridge did not give interview questions, sample size, nor percentages of patients reporting positive experiences with nursing case management.

Lamb and Stemple (1994) described a grounded theory method that collected data through semistructured, open-ended interviews. Their sample consisted of 16 individuals who had worked with or were currently working with nurse case managers. The participants' lengths of experience with case management ranged from two months to two years. The interviews were taped and transcribed to text. The texts were entered into a qualitative computer program to aid coding and analysis by the researchers. The authors reported on the process of analysis, credibility, and generalizability for the data. The study findings were reported in the themes of growing as insider-expert, bonding, working, and changing. The theme categories resulted in "becoming one's own insider expert" (p. 11). Becoming one's own insider expert enabled patients to rely on their own ability to manage their care or seek help prior to crisis situations. "Clients of nurse case managers asserted here that a relationship with a nurse who is [an] insider-expert enabled them to achieve important health outcomes, including improved self-care outcomes, fewer hospitalizations, and enhanced quality of life" (p. 12).

Roberts (1994) described a descriptive study using the Press Ganey Patient Satisfaction Survey to gather data on patient satisfaction of case managed hospital care. The sample was 100 patients. Data were collected by telephone interviews after discharge. Although the findings were not significantly significant between the two groups (case-managed and non-case managed) "six of the seven questions most affected by the case management process received higher scores in the case-managed group" (p. 6).

The published research on patient satisfaction is not strong. More research will need to be done before the quality outcomes of case management in patient satisfaction areas provide strong support for implementation of case management.

Nurse satisfaction. Research also has shown that implementing nursing case management results in increased satisfaction among the nurses practicing this role. Being in the role of case manager places more accountability on the nurse, but it also results in empowerment through increased authority (Zander, 1988a). This increased authority does not mean that nursing tries to be everything to everybody, rather it means that nursing has refined both the primary and team nursing models into one that puts the case manager into the position of coordinating nursing and overall patient care (Cohen & Cesta, 1993).

Authors who have reported increases in nursing satisfaction indicated that this increase in accountability and empowerment resulted in increases in nurses' satisfaction. Nurses also reported satisfaction in the increased collaboration with physicians and other providers and the bonding with patients and families.

Cardinal, Kraushar, and Wagie, (1994) reported on nursing satisfaction that was gathered by questionnaire prior to and three months after implementation of case management. The sample consisted of 34 nurses (74% of the unit staff) and the areas of interest were: collaboration, documentation, nursing process, patient/family education, and professional development. All areas improved from the baseline data collection. The baseline improvement was consistent with increased satisfaction among the nurses and provided support for case management as a strategy to increase nursing job satisfaction. Additional research needs to be done to discover whether the role of case manager results in increased satisfaction among the nurses who practice the role.

In summary, the review of case management literature provided the case management role functions for use in this research and discussions of previous research on the case management role and process. Case management and managed care were each defined and the differences explored. The specific outcomes of previous case management research in

the areas of cost savings, reduction of lengths of stay, care planning and discharge planning, and patient and nurse satisfaction were presented.

Overview of TRICARE

TRICARE has grown from the CHAMPUS Reform Initiative (CRI) started in 1988. (CHAMPUS is the acronym for the Civilian Health and Medical Program of the Uniformed Services.) The initiative is:

> a competitively bid, single-payer system, capped by a global budget, which delivers health care through local private health maintenance organizations (HMOs) and preferred provider organizations (PPOs) while emphasizing prevention and patient choice...a focused referral system to the most cost-effective source of health care (Crowley & Tough, 1993, p. 33).

The aim of the reform initiative was to expand access to dependents who were often forced to seek healthcare through CHAMPUS rather than in a military facility. This was also intended to reduce the out-of-pocket costs that were incurred in the CHAMPUS method of receiving healthcare. In addition to these aims the military was faced with a growing number of retirees and their beneficiaries who were eligible for care, rising costs, reduced funding, and growing utilization (Starr, 1993).

TRICARE was introduced in 1993 as the DoD's version of healthcare reform. TRICARE will combine all military hospitals and clinics from all branches of service (Army, Navy, and Air Force) into one system divided by regions. Each region will have a Lead Agent (usually the largest

facility) who will contract for additional care in their region through a network of civilian providers. Under this system active duty dependents and retirees will have a choice of three options for their healthcare:

> 1. TRICARE Prime- similar to an HMO that will require enrollment for 12 months and an annual enrollment fee.
>
> 2. TRICARE Extra- a PPO which offers discounts in cost-sharing for using government-approved providers. Standard deductibles remain.
>
> 3. TRICARE Standard- identical to regular CHAMPUS today. Allows unlimited access to any provider of choice with standard deductibles and cost-sharing (USAA, 1995, pp. 3-4).

The managed care support contracts that will go into effect in each region will include case management. The description of case management used by the DoD is based on utilization management and follows the insurance model of case management (Assistant Secretary of Defense Memorandum, 1994). The model is driven by costs and identifies high-risk, catastrophic groups who will automatically receive case management. There is no mention of patient-centered care, advocacy, or quality that are the hallmarks of nursing case management. The contract does not outline what role functions the case manager will perform, but does list the following qualifications:

> Case managers will be licensed RNs and/or social workers who have a minimum of two (2) years of clinical experience in the appropriate clinical specialty for those patients being case managed, or who qualify by DoD regulation as advanced practice nurses in the appropriate specialty (p. 8).

Hicks, Stallmeyer, & Coleman (1993) made a statement about nurses and case management that the Air Force Medical Service would be wise to consider as they move toward implementation of case management in TRICARE:

> Nurses are in a unique position to function as case managers. "Nurses are the generalists; they are the detail people, and they excel in managing care. They are at the juncture of cost and quality, and they know the human implications of trade-offs such as early discharge, patient education in groups, or the use of new technology. Most important are two underlying elements: 1) nurses use the formal nursing process, which is directly analogous to the process of case management; and 2) nurses are committed to the welfare of the institution and, with support, are willing to assume more authority in the smooth, integrated management of patient care" (Zander 1990, p. 201). The case management process addresses the issues of resource allocation, effectiveness of care, cost containment, and accountability--all important elements in an efficient and effective managed care organization (p. 58).

Chapter Summary

A discussion of the role functions of nursing case management were presented along with supportive research. Managed care was defined and an extensive review of nursing case management and research on the areas of cost savings, care planning, discharge planning, patient satisfaction, and nurse satisfaction as they relate to case management was presented. Finally, an indepth explanation of the Air Force Medical Service and TRICARE was put forth.

Chapter III will describe the methodology of the study. It will include the design, sampling procedure, instrument development, data collection, and methods of data analysis.

CHAPTER III

METHODOLOGY

Research Design

A descriptive survey design was used to determine the extent to which Air Force nurses incorporate the role functions of case management into their current practice. According to LoBiondo-Wood and Haber (1994), descriptive survey studies may be used to "collect detailed descriptions of existing variables and use the data to justify and assess current conditions and practices or to make more intelligent plans for improving health care practices" (p. 233). Descriptive research does not manipulate variables or assign participants to groups; rather, the purpose is "to observe, describe, and document aspects of a situation as it naturally occurs" (Polit & Hungler, 1995, p. 178). Descriptive research is done when there is a need to know more about a group or a current practice (Burns & Grove, 1993). The reasons listed above for performing descriptive survey research are consistent with the aims of this study.

One purpose of survey research "is to generalize from a sample to a population so that inferences can be made about some characteristic, attitude, or behavior of this population" (Creswell, 1994, p. 118). Fowler (1988) stated that a "reason for surveys is to collect information that is available from no other source" (p.12). Data collected from

surveys can be used to project future learning needs and to establish baseline information about a particular group.

There are three ways to do survey research. The first is a face-to-face interview. One advantage of an interview is that misinterpretation and inconsistency can be identified as the interview is conducted, and clarification given (Waltz, Strickland, & Lenz, 1991). Another advantage is that an interview can be used to gather information from people who have difficulty reading and/or writing. Some limits to a face-to-face interview are that anonymity is not ensured, some respondents may not be entirely truthful when in the presence of the interviewer, and its costly nature in time and effort (Waltz, Strickland, & Lenz, 1991). Personal interviews also have the potential of requiring more time from each participant than does a self-administered questionnaire.

The second type of survey is the phone interview. A telephone interview has the advantage of being less costly when subjects are located throughout a vast geographic area. The telephone also allows a somewhat more anonymous nature in that neither the respondent or the interviewer can see one another during the interview. A disadvantage to telephone interviews is timing. Respondents may be unavailable during the hours chosen for the interviews, or may not have the time to complete the interview (Fowler, 1988). A telephone interview also has similar advantages

and disadvantages as mentioned above for the face-to-face interview (Waltz, Strickland, & Lenz, 1991).

The third type of survey research is the mailed questionnaire. The mailed questionnaire has its own advantages and disadvantages. Some major advantages are cost-efficiency in time and money, and the convenience of sampling respondents from large geographically dispersed regions. A mailed questionnaire allows the respondent to chose the time and place that it will be completed and can provide anonymity. Another advantage is that a written questionnaire exposes the respondents to uniform stimuli which can remove the potential of interviewer bias (Waltz, Strickland, & Lenz, 1991). One disadvantage to mailed questionnaires is that response rates tend to be low. Higher response rates reduce the risk of response bias; however, mailed questionnaires tend to have response rates less than 50% (Polit & Hungler, 1995; LoBiondo-Wood & Haber, 1994; Burns & Grove, 1993). Ways to increase response rate include the use of a cover letter, stamped self-addressed envelopes, and follow-up reminders. Another disadvantage of self-administered questionnaires is that respondents frequently fail to answer all questions. This can affect the validity of the instrument. It is important that the researcher decides whether to discard incomplete questionnaires or note the lack of responses in reporting the data (Burns & Grove, 1993, p. 373). All answers were

used in this study because the study is descriptive and the computer program was adjusted for non-response to items.

LoBiondo-Wood and Haber (1994) noted the economical nature of mailed surveys and added "survey research information can be surprisingly accurate. If a sample is representative of the population, a relatively small number of respondents can provide an accurate picture of the target population" (p. 235). A bias of mailed surveys is that respondents with more education send the questionnaires back more rapidly than those with less education (Fowler, 1988). This would be a disadvantage if one were sampling people from all educational levels.

A mailed survey questionnaire was chosen for this research because it was convenient, anonymous, and economical. It would have been difficult for this researcher to personally contact the number of nurses selected and interview each by phone or in person. Air Force nurses serve in numerous military facilities located throughout the continental United States and overseas. The mailed questionnaire allowed sampling of nurses who were stationed in different regions of the country. The fact that respondents with higher educations tend to return surveys sooner potentially increased the response rate of this survey as over 96% of Air Force nurses are educated at the baccalaureate level.

Population and Sample

The population in this study was Air Force nurses caring for adult, medical or surgical patients (inpatients or outpatients). The sample consisted of a group of 50 nurses who met the following criteria:

1. cares for adult patients (over 18 years of age)
2. patients must be medical and/or surgical (no OB, OR, or Psych)
3. nurse may be any rank, and may possess any nursing educational level
4. nurses may work in inpatient or outpatient settings
5. the nurses may be in any clinical role (may include Nurse Managers)

Sample size was important to the question of whether the sample is representative of the population. "The larger the sample, the more representative of the population it is likely to be; smaller samples produce less accurate results." (LoBiondo-Wood & Haber, 1994, p. 302). In the past, a sample of at least 30 subjects has been considered adequate for research (Burns & Grove, 1993), especially a master's level thesis. Also, it should be noted that the accuracy with which a sample size can describe the population is not necessarily based on a certain percentage of the total population; rather it is the extent to which the answers reflect the views of the population which determines the generalizability of the study results (Fowler, 1988). Based on the above knowledge that response

rates of mailed questionnaires is low, a final sample size of 30 (60%) would have been acceptable for this study.

The sample was selected by stratification. All continental United States Air Force Military Treatment Facilities (MTFs) with inpatient beds were compiled on a list. All MTFs with inpatient beds also include outpatient clinics, so choosing these facilities satisfied the criteria of inpatient and outpatient populations. The MTFs were separated and grouped by size. Each group was placed in a container and a random selection of one facility from each size group was done by a person other than the researcher. This ensured that all sizes of MTFs were represented in the sample. Based on the number of inpatient beds in the facility, each MTF received a different number of questionnaires (the number of inpatient beds in each size facility dictates the corresponding number of nurses available on staff who fit the population). The total number of fifty was divided so that the largest facility received fifteen questionnaires. The other size facilities received correspondingly smaller numbers of questionnaires until fifty was reached. The smallest facility received five questionnaires.

The questionnaires were sent in bulk to the Senior Nurse Executive Officer of each facility who was requested to select the nurses to receive the questionnaire. This method of having the Senior Nurse Executive Officer select

the respondents could have resulted in bias. The sample may have become a purposive sample, rather than a random sample. The cover letter to the executive officers requested that they distribute the questionnaires to nurses who fit the sample criteria listed above.

Instrument

The instrument used for the study was developed by the researcher. A search of the literature was made, but no instrument was found that addressed the variables of interest in this research. To develop the instrument a search of case management literature was completed. The lists of identified role functions of case managers were compared and those roles that were identified by more than two authors/sources were used. The case management role functions chosen for inclusion in the research with Air Force nurses were:

1. Identification of patients who require additional services or resources.
2. Assessment of patients' physical, psychological, social, financial, and emotional needs and goals.
3. Coordination of care and referral to further resources outside of nursing.
4. Collaboration of care with a multidisciplinary group of providers.
5. Providing or coordinating patient and/or family education.

6. Providing discharge planning.

7. Acting as a source of information to other care providers on the plan and goals of care.

8. Developing, implementing, monitoring and modifying the plan of care.

9. Reassessment of the plan, and identification of variances from the plan.

10. Patient and/or family advocacy.

11. Providing follow-up contacts after discharge.

12. Evaluation of patient and program outcomes.

The resultant tool, Nursing Case Management Roles Survey, included items to solicit demographic information, familiarity with case management, and use of the identified role. The questions concerning role functions were answered by choosing a descriptive word in a Likert-type scale. The respondents were asked to consider their overall use of each role function within their current practice. All the Likert items used the same five-item scale that ranged from never to always. The directions on the survey gave guidance for the middle three scores (see Appendix A). The final item was an open-ended question to elicit the opinion of each nurse as to whether his/her patient population could benefit from an Air Force nurse in the role of case manager. The questionnaires were accompanied by a cover letter that included the reason for the study and instructions on how and when to return the surveys (see Appendix B).

A pilot test was conducted to determine whether the instrument had content validity and if the questions and directions were clear. Burns and Grove (1993) stated that a pilot test should be done to "determine the clarity of questions, effectiveness of instructions, completeness of response sets, time required to complete the questionnaire, and success of data collection techniques" (p. 373). The pilot test was conducted by giving the instrument to five nurses who have expertise in the case management role. Four of the nurses were currently employed as case managers and the fifth was a member of the faculty of the University of Colorado School of Nursing who has an extensive background in community health nursing and teaches a course in care (case) management. All of the experts agreed that the role functions cited were consistent with case management. No suggestions for additional role functions were identified, nor deleting any of the role functions as selected by the review of experts. Time to complete the questionnaire was reported as being fifteen minutes. The instrument was modified after testing as the original scale was not clear. All of the respondents suggested that a Likert-type scale was preferable to the percentage scale originally selected. Reliability was determined at the time of data analysis by using Cronbach's alpha coefficient to determine internal consistency (Burns & Grove, 1993). The statistical program was used to provide this information.

Protection of Human Subjects

Approval for this study was obtained from the Colorado Multiple Institutional Review Board at the University of Colorado Health Sciences Center (see Appendix C). Approval was received from Headquarters, Air Force Military Personnel Center as required in Air Force Instruction 36-2601, Air Force Personnel Survey Program (see Appendix D). In addition, the cover letter attached to each questionnaire included the name, address, and phone number of the researcher, the purpose of the study, and any risks and benefits to the respondent. Completion and return of the questionnaire constituted informed consent by the respondent.

Data Collection

Data were collected over an approximate five week period. A total of 50 surveys were mailed to 5 Air Force MTFs on January 4, 1996. Each questionnaire had a cover letter and stamped, self-addressed envelope stapled to it. The questionnaires were sent in bulk to the Senior Nurse Executive at each MTF with a separate cover letter that included a request for distribution and instructions for the nurses who would fit the desired sample (see Appendix E). Respondents were asked to return the completed questionnaires by February 10, 1996. The cover letter indicated the researcher's affiliation, reason for the

study, and that response was voluntary and without risk to the respondent.

The questionnaires were identified by location through the use of a different postal stamp for each facility. This allowed the researcher to know which groups of nurses were returning the questionnaires. MTFs with low response rates were sent a reminder letter by facsimile. The new letter included a statement about the importance of each respondent's answers to the final conclusions of the researcher and a request that the questionnaires be completed and returned (see Appendix F).

Data Analysis

Descriptive statistics were used to analyze the data. These measures allowed one to describe and summarize data (LoBiondo-Wood & Haber, 1994). They also allowed the researcher "to organize the data in ways to give meaning and facilitate insight" (Burns & Grove, 1993, p. 473). Descriptive statistics included frequency distributions, measures of central tendency, measures of dispersion, and percentages. Data were analyzed with the use of the Statistical Package for the Social Sciences (SPSS) software program. All data were entered by the researcher and checked for accuracy. Ten different questionnaires were examined for accurate entry on two different occasions with no discrepancies found. Questionnaires with missing items were retained based on the ability of the SPSS program to

calculate the valid percent. The valid percent as reported is based upon the elimination of those respondents who gave no answer to the item. Therefore, the resultant percentage of each item is based on the sample who provided a response, not the total sample size (Babbie & Halley, 1994).

The responses to the final, open-ended question addressing the opinion of the nurses of the need for case management were analyzed for agreement or disagreement. Content analysis was done for topics and the topics were placed in categories reflecting relationships in the responses (Morse & Field, 1995).

Chapter Summary

The chapter presented the research design and methodology. A descriptive survey design was chosen using the mailed questionnaire. Reasons were explained for this choice and ways to increase response rate were presented. The population and sample were described. The method for choosing the facilities and respondents were listed.

The instrument development process was outlined from use of literature, choice of Likert scale, to pilot-testing. Use of cover letters and the protection of human subjects was discussed. The instrument, cover letters, and other appendices were referred to for ease in finding.

Finally, the process of data collection and data analysis were discussed. Chapter IV will present the results of the data collection and analysis. Chapter V will

discuss significant findings, implications for nursing and the Air Force Nurse Corps.

CHAPTER IV

RESULTS

Organization of Statistical Analyses

Statistical results are presented in written and tabular formats. All data for questions 1 through 27 of the Nursing Case Management Roles Survey were entered into the Statistical Packages for the Social Sciences (SPSS) by the researcher for analysis. Demographic data are presented by percentages and frequencies. Responses to questions on case management role functions are presented as interval level data. There is support for treating summed scores of Likert scale items as interval level data, even though they are technically ordinal level data. Interval level data results in a more sophisticated statistical analysis. The researchers who treat the Likert scale summed scores as interval level data treat each item as interval level data (Burns & Grove, 1993). The answers to the question: *What are your thoughts and opinion on instituting case management using Air Force Nurses as case manager?*, are presented as percentages of agreement or disagreement and the categories of responses discussed.

A total of fifty questionnaires were mailed. The number of inpatient hospital beds was used to group the available Air Force hospitals. The number of beds in each size facility has a direct impact on the numbers of nursing staff assigned to each facility and this number is

determined by staffing requirements and patterns. The number of nursing staff in each size facility was estimated by the researcher using past experience and discussions with several other experienced Air Force nurses. These estimated staffing numbers were used to determine the number of surveys sent to the randomly selected facility in each size grouping. The final number of surveys sent to each facility was adjusted to fit the sample size of fifty. Table 1 breaks down these numbers. Questionnaire return rate was 76% (n=38). The survey packages were mailed on January 4, 1996 with the first returns arriving on January 12, 1996. Thirty-one questionnaires (62%) had been returned by February 4, 1996. A follow-up letter was sent by fax to each of the four facilities with outstanding questionnaires (one facility had a 100% return rate at this time).

Table 1 HOSPITAL BEDSIZE AND SURVEY TOTALS

Bedsize	Surveys Sent	Surveys Returned	%
Less than 20	5	5	100
21 - 50	8	8	100
51 - 100	10	3	33
101 - 250	12	10	83
251 or more	15	12	75
Totals	50	38	76

Follow-up contacts generated seven more questionnaires, bringing the total returned to thirty-eight. Two facilities achieved a 100% return rate, one achieved an 83% return

rate, and another had a 75% return rate. One of the facilities had a 33% return rate even with the follow-up contact.

Demographic Data Results

Demographic data was collected from the respondents (n=38) using forced response and fill-in (job title) items. The analysis reveals a typical profile: a Captain (n=20) with a BS/BSN degree (n= 33), employed as a staff nurse (n= 21) caring for medical inpatients (n=14) or combined medical/surgical inpatients (n=10). Time in current position ranged from less than six months through three years and longer. Hospital bedsize was the criterion used for determining the number of surveys sent to each selected site, so this number is not included in the demographic table as the researcher knew this number was predetermined. See Table 1 and Table 2 for specifics.

TABLE 2 DEMOGRAPHICS			
DEMOGRAPHIC	VARIABLE	n	%
Rank	2 Lt	6	15.8
	1 Lt	8	21.1
	Capt	20	52.6
	Major	4	10.5
Degree	AD	1	2.6
	BS/BSN	33	86.8
	MS/MSN	4	10.5
Job Title	Staff Nurse	21	55.3
	Assistant Nurse Manager	8	21.1
	Nurse Manager	8	21.1
	Other	1	2.6
Patient Population[a]	Medical inpt	14	36.8
	Medical outpt	1	2.6
	Surgical inpt	4	10.5
	Surgical outpt	2	5.3
	Med/Surg outpt	5	13.2
	Primary Care Clinic	1	2.6
	Med/Surg inpt	10	26.3
Time in Job	< 6 months	9	23.7
	6 months - < 1 year	8	21.1
	1 year - < 2 years	6	15.8
	2 years - < 3 years	8	21.1
	3 years and longer	7	18.4

Note. [a]one missing case

Knowledge of Case Management

Eighty-one percent (n=31) of the nurses surveyed responded that they were familiar with case management. Seven (18.4%) of the nurses reported they were not familiar with case management. Of the nurses with knowledge of case management, their primary source of information was nursing literature (n=19). More than one answer was accepted in this section. The second area for information about case management was other (n=8) with the most frequent written response "word of mouth" (n=5). Sources of information that were seldom used by the survey respondents were educational offering (n=5), other literature (n=4), and inservice program(n=1).

TABLE 3 SOURCE OF CASE MANAGEMENT KNOWLEDGE

Source	n	%
Reading Nursing Literature	20	64.5
Reading Other Literature	4	12.9
Inservice Program	1	3.2
Educational Offering/Course	5	16.1
Other	8	25.8

Case Management Role Functions

The statistical results of the research indicate that the sample of Air Force nurses surveyed use case management role functions in over one-half (50%) of their current practice with two exceptions. The exceptions, contact patient for follow-up and evaluate program outcomes, are

used in over one-fourth (25%) of their current practice.

Mean scores for the individual items addressing case management role function use are reported in Table 4. Overall item means were between 3 and 4. A score of 3 represents the respondents' use of a role function occasionally which was identified in the provided scale as 50% of their current practice. A score of 4 indicates that the role function was used frequently or as 75% of their current practice.

The item with the maximum mean score was question 18: *How often do you monitor and document the delivery of your patients' care and/or treatments?* The respondents reported that they monitored and documented delivery of care in greater than 75% of their practice (mean=4.324). Five other questions received a mean score greater than 4.0. The role functions described were:

(1) perform individual assessment of patients' needs (mean=4.079);

(2) provide or coordinate patient education (mean=4.079);

(3) monitor progress towards goals (mean=4.053);

(4) reassess changes in health status (mean=4.263);

(5) serve as patient advocate (mean=4.237).

The surveyed nurses reported they used these six case management role functions in greater than three-fourths (75%) of their current practice. These six role functions

represent almost one-third (32%) of the nineteen role functions on the questionnaire.

Two of the item mean scores were reported as being used seldom (25%) or in only one-fourth of the nurses' practices. Question 25: *How often do you contact patients and/or families for follow-up...?* had a mean score of 2.263 indicating use of follow-up contacts occurring seldom (25%) to occasionally (50%). Question 27: *How often do you evaluate program outcomes?* received a mean score of 2.658 indicating that the nurses seldom (25%) to occasionally (50%) evaluated program outcomes.

Two questions had missing responses. Question 15: *How often do you provide discharge planning?*, was not answered by two respondents. Both respondents wrote in "N/A", with one also writing "outpt clinic" next to the "N/A". Each of these nurses were working in outpatient clinics and with medical patients. Question 16: *How often do you act as a source of information on your patients' overall care needs...*, was left blank by one respondent. It may be that this respondent overlooked the question, had no answer to provide, found the question confusing, or for some other reason did not provide an answer.

Questionnaires with missing items were retained based on the ability of the SPSS program to calculate the valid percent. The valid percent as reported is based upon the elimination of those respondents who gave no answer to the

TABLE 4 CASE MANAGEMENT ROLE FUNCTIONS

Question	Role Function	X	SD
9	Identify additional resources	3.395	.855
10	Individual assessment of patients' needs	4.079	.784
11	Coordinate patient care with other providers	3.553	.795
12	Collaborate on patient care with other providers	3.263	.860
13	Provide or coordinate patient education	4.079	.712
14	Provide or coordinate family education	3.500	1.033
[a] 15	Provide discharge planning	3.500	1.276
[b] 16	Act as source of information to other providers	3.676	.818
17	Develop plan of care by consultation	3.263	1.555
18	Monitor and document delivery of care	4.342	.878
19	Monitor progress towards goals	4.053	.957
20	Reassess changes in health status	4.263	.860
21	Identify exceptions to the plan of care	3.263	1.005
22	Initiate actions for exceptions to plan of care	3.474	1.059
23	Serve as patient advocate	4.237	.714
24	Serve as family advocate	3.632	.970
25	Contact patient for follow-up	2.263	1.245
26	Evaluate patient outcomes	3.579	.889
27	Evaluate program outcomes	2.658	1.021

Note. 1.0 = never 2.0 = seldom 3.0 = occasionally
4.0 = frequently 5.0 = always
[a]=2 missing answers [b]=1 missing answer

item. Therefore, the resultant percentage of each item is based on the sample who provided a response, not the total sample size (Babbie & Halley, 1994).

The remaining items were reported as used in one-half (50%) of the nurses' practice. The scores indicate that fully half of theses nurses' patients were receiving benefit of the majority of case management role functions.

Narrative Response Analysis

Responses for question 28: *What are your thoughts and opinions on instituting case management using Air Force nurses as Case Manager?*, are provided in Table 5. The responses were grouped for agreement or disagreement. The narrative responses were analyzed for similarities and grouped by the researcher. Once the responses were divided in this manner, each answer was read for meaning. Each time a new category was introduced it was noted on a 3x5 card. When a response was similar to one previously identified, the ideas were compared for fit. If the response was similar and comparable, for example, "I feel it is an excellent idea to save money and use resources appropriately" and "if it decreases patient stays and admissions it would be cost effective", the comments were considered appropriate to be grouped in the same category. If the responses were not similar, such as "I believe it would keep the Air Force up-to-date" did not describe cost savings, a new 3x5 card and category was started.

Twenty-five (66%) of the participants responded to the question. Thirteen (34%) did not provide any written response to the open-ended question. Of those who provided an answer, 76% (n=19) were in agreement with instituting case management in the Air Force Medical Service. Four (16%) respondents disagreed, and two (8%) stated they were unfamiliar with the concept and could not give an opinion.

TABLE 5 NARRATIVE DATA

Opinion	n	Percent
Agree	19	76%
Disagree	4	16%
Unable to decide	2	8%
n=25 (of possible Total n=38)		

Narrative Data Categories

The agreement responses were grouped into eight categories. Several of the respondents touched on two or more categories in their responses. Two of the categories each received eight mentions. The categories were named by the researcher based on the subject matter.

The first of the largest categories of agreement responses is great or excellent idea/opportunity, the second dominant category is case management would be cost effective or save resources. There was a mid-group of categories that received between four and six responses each. The categories are:

(1) many of the patients have complex/numerous problems/needs that would benefit from case management (n=6)

(2) case management would provide new roles for AF nurses (n=5)

(3) AF patients need advocacy and knowledge provided by case management (n=4)

(4) master's prepared nurses have the knowledge base and experience to become case managers (n=4)

(5) fears that budget or personnel constraints could prevent proper case management programs (n=4)

There were two categories that received one or two responses. AF nurses are familiar with/currently perform the case management role received two responses. The final category proper education needed for those involved was mentioned by only one respondent.

The four nurses who disagreed with implementation of case management had four different categories of answers. One nurse's response was simply "not necessary", another's was "patient stays too short for case management" (a nurse whose job was identified as staff nurse, Recovery Room). The third nurse stated "patients sick enough &/or chronic enough to need case management will be farmed out to the civilians". The final nurse's response was twofold. This nurse replied that the "AF could not provide enough case managers to care for the large patient population" and, "AF

patient population can be flown across the US for their care which would make it difficult to follow these patients".

Instrument Reliability

The instrument, Nursing Case Management Roles Survey, was subjected to reliability testing using Cronbach's alpha coefficient. This statistical procedure determines the extent to which all of the instrument items measure the same construct. The construct for this instrument is use of case management roles. Questions 9 through 27 were compared by use of the SPSS program's reliability analysis for scales. Three of the thirty-eight completed questionnaires were dropped due to missing values. Thirty-five respondents' answers were compared for determining the reliability coefficient.

The final reliability coefficient for the instrument was an alpha of .8938 and a standardized item alpha of .9032. This is an acceptable to high reliability coefficient for a scaled instrument. The lowest acceptable reliability for an established measurement tool is .80, and the lowest acceptable reliability for a new measurement tool (such as the tool developed for this survey) is .70 (Burns & Grove, 1993).

This high reliability for the instrument in no way guarantees that the instrument will have high reliability for other groups of nurses, and should not be assumed prior to another use of the tool. Each time the tool is used,

reliability testing should be performed for the tool within the new sample or population (Burns & Grove, 1993).

Chapter Summary

Chapter IV presented the analysis of survey data. Data was organized into tables for ease of presentation and described in narrative text. Return rates were discussed along with the method employed to increase response.

Demographic data was reported with a picture of the typical respondent. Frequencies and percentages were used to display the data.

Respondents' knowledge of case management was recounted and the sources of the respondents' knowledge were analyzed by percent and frequency. Each of the case management role function questions was analyzed and presented by means and standard deviations.

The narrative response question was grouped by categories and presented in percentages of agreement and disagreement and the categories were named by the researcher. Major findings, conclusions, implications, and limitations will be presented in Chapter V.

CHAPTER V

DISCUSSION OF FINDINGS

The purpose of this study was to evaluate the use and knowledge of case management role functions by Air Force nurses. A descriptive survey design was chosen to answer the research questions: (1) What are the case management role functions used by Air Force nurses in their current practice?; (2) How frequently are the case management role functions used?; and, (3) What are the opinions of Air Force nurses regarding implementation of case management? The sample was a group of 38 Air Force nurses representing all sizes of Air Force Military Treatment Facilities (MTF). The mailed survey tool, Nursing Case Management Roles Survey, provided data on demographics, use of identified case management role functions, and one open-ended question asking for a written, opinion response.

Major Findings and Conclusions

The reported use of case management role functions in over half of the surveyed nurses' practice within their respective patient populations lends support to previous authors' recommendations that nurses are well-suited to the role of case manager (Soehren & Schumann, 1994; Trinidad, 1993; Cronin & Maklebust, 1989). The nurses in this survey are predominantly staff nurses (55.3%) educated at the baccalaureate level (86.8%) of nursing education. These nurses are incorporating case management role functions into

their current practice without advanced degrees or specific training in case management (less than 20% reported a knowledge of case management from inservice or educational programs). It is significant to the question of who should be a case manager in the Air Force Medical Service that Air Force nurses currently incorporate the role functions of case management into their practice.

Eighty-one percent of the nurses surveyed reported that they have knowledge of case management (question 7: *Are you familiar with the concept of Nursing Case Management?*). It is interesting to note that those nurses who self-reported no familiarity with the concept of nursing case management were able to place a quantity of their practice within each of the role functions. This also lends support to the use of nurses as case managers, as the surveyed nurses were able to recognize the role functions as an integral part of their nursing care. It can be concluded that Air Force nurses have a general knowledge of case management.

Another major finding is that the primary source for gaining knowledge of case management in this group of nurses was the nursing literature. Over sixty percent of the participant nurses reported their knowledge of case management was gained from reading nursing literature. The Air Force has not consistently addressed case management within its healthcare system. Certain MTFs are evaluating case management and have formed committees to work through

the issues, others have instituted differing forms of case management, but the majority of MTFs have not addressed case management. No formal training for case management within the Air Force Medical Service has been presented at this time.

It is important to note that these nurses are reading current nursing literature. Case management and/or nursing case management articles have become commonplace in the nursing literature only in the past five years. Prior to 1990, case management articles were not plentiful. A recent search of CINAHL using the identifiers "case management" and "nursing" resulted in 864 article references from 1982 to February 1996. A modification of the same search to show only those articles with a publication date of 1990 to present revealed 789 references. These Air Force nurses have kept abreast of current nursing and healthcare case management trends through reading, not through inservice. The Air Force Nurse Corps leadership can use this knowledge to survey the literature frequently and recommend articles and journals to nursing personnel that will further their knowledge base.

The last major finding from this research is that over three-quarters of nurses sampled who provided a response to the question: *What are your thoughts and opinion on instituting case management using Air Force nurses as Case Manager?* were in agreement. The surveyed nurses expressed a

positive desire to have case management implemented into the Air Force Medical Service. They also expressed that this would provide a new advanced nursing role for the AF Nurse Corps. The nurses' responses to the open-ended question revealed that nurses and patients alike are confused about the new directions that the military healthcare systems are moving. The nurses felt that case management could help to alleviate fears and anger they were witnessing in their patients. One nurse wrote "my MTF has a very large retiree population and small access [to medical care within the MTF]. There are many confused and angry people in our population, perhaps case management could help that." Another wrote "I sometimes find myself as a buffer for the retirees who are facing the new TRICARE program. They really do need an advocate, or anyone, who would listen and explain 'the inevitable' and guide them in the right direction. Nurses can be case managers!"

The nurses also recognized that resources were being wasted and could be controlled with case management. Comments in this area included:

> (1) I am seeing great abuse of the system as patients are often [an] inpatient <u>way</u> beyond even the DRG recommendations. Nurses, especially MSN prepared, have the academic knowledge and frequently career experience to collaborate case management and result in cost effectiveness.
>
> (2) Follow-up care with a case manager may reduce readmits.
>
> (3) Considering our population is mainly retired and often have bogus lengths of stay for placement or

> respite, I feel it is an excellent idea to save money and use resources appropriately. Nurses are in excellent positions to be case managers due to their education and training.
>
> (4) If it decreases patient stays and admissions it would be appreciated by patients and cost effective.

These nurses recognized that unnecessary lengths of stay and recurrent admissions were using resources and increasing costs within their MTF. The nurses felt that nursing staff were in an excellent position to address these problems. This echoes the findings of Williams, Blue, and Langlois (1995) that military nurses providing follow-up home visits reduced readmissions and resulted in cost savings within a large MTF.

The nurses had their own fears about the implementation of case management. There were fears that reduced funding could jeopardize new programs or that the case management role would be an additional duty to their current role of staff nurse or manager. One nurse wrote "it is a needed role. However, I fear it will be instituted as an 'additional duty' and therefore not given the attention it needs. Further, it will not be effective if the people involved are not given the proper training, i.e. graduate level school, not simply OJT [on the job training] for 1-2 weeks." Another stated "funding, I feel would be a major problem." The nurses expressed a desire to see supportive education for those assuming the role of case manager, and that it was an appropriate role for nurses who have advanced

education at the master's level. These comments reinforce the researcher's views that Air Force nurses are seeking ways to improve their patients' care and have a desire to use their nursing education to the fullest extent.

It was surprising to this researcher that the question: *How often do you contact the patient...for follow-up information after discharge or clinic visits?* (question 25) resulted in a mean of 2.263. This was the lowest response rate of usage by the respondents. Follow-up contacts were made for only one quarter of the nurses' practice. One wonders if follow-up contacts are not valued by the nurses, time does not allow for follow-up, or if a system exists for someone other than the nurse to provide follow-up contacts. It is not an adequate answer to say that the majority of respondents were staff nurses (55%) and staff nurses are not expected to provide follow-up. Continuity of care as a concept and discharge planning are taught in entry level nursing programs. Nurses should be concerned about follow-up contacts with their patients; at a minimum the nurse should consider follow-up contacts for those patients who are at risk for readmission or knowledge deficits in self-care. It is important that the AF Nurse Corps leadership be aware of this finding and determine if it is significant and should be addressed through policy change or education.

Limitations

The data collected cannot be generalized to other populations of nurses as the sample size was limited to thirty-eight. The sample did represent nurses who worked in all sizes of MTFs and with the desired patient populations. Of the nurses responding to the survey, 76 percent worked with inpatients and 24 percent worked with outpatients. This is probably close to actual percentages of staffing as only one or two nurses are usually assigned to each clinic, and in some facilities the nurse will manage more than one clinic. However, it cannot be assumed that the sample is representative of the AF Nurse Corps as the sample was small; and, the study sample represented only 10 percent of master's prepared nurses, not the thirty-five percent quoted by the current Air Force Nurse Corps Chief Nurse (Stierle, 1995).

A second limitation is that it is not possible to generalize the results to another nursing system. The Air Force Nurse Corps may have a greater percentage of nurses educated at the baccalaureate level than other nursing systems. Also, AF nurses practice in many small hospital settings which is no longer the case in civilian healthcare. The Air Force Medical Service serves a large population in most of the outpatient clinics but must refer many patients to civilian providers due to staffing limits. The surveyed nurses' views may reflect these constraints.

Suggestions for Further Research

It is recommended that the tool be further tested for validity and reliability and that the study be replicated with a larger sample. Expanding the research to a larger population of AF nurses would provide stronger statistical evidence for decisions regarding case management implementation. The survey should also be administered to nursing groups who are outside of the military system. Data from these groups would increase the ability to generalize the findings to the nursing profession.

It would also be useful to conduct a survey of nurses' attitudes after case management is implemented. Such a survey could identify problems and concerns that need further attention. Program evaluation should be built into any new program so that quality is achieved.

Research could also be done comparing patient and program outcomes with different professions that practice as case managers. Evaluating these programs would provide additional data if there is still a question of who is best-suited for the role of case manager.

The Nursing Case Management Roles Survey tool could be expanded to provide more information. Questions that were not asked but would have yielded more data include: 1) How many years have practiced nursing?, 2) How many years have you practiced nursing in the Air Force?, 3) Do you view the AF Nurse Corps as being empowered to implement change?, and,

(4) Are you satisfied with the current clinical career ladder available to AF nurses?

The high incidence (34%) of respondents' lack of answer for the question asking for an opinion and written response on instituting case management, reveals that the question needed to be more clear or that its presentation was poor. The tool was reproduced on both sides of two sheets of paper to save space, but it may be that condensing the tool was a reason that not all respondents supplied an answer. The shift from forced response questions to a written response may have been too abrupt, poorly transitioned, or not clear in the response requested of the reader. In addition, it would have been beneficial to ask which case types would receive a role function, which case types would not receive a role function, and why. Asking for this data would provide answers to which types of patients in the MTFs warrant case management. A re-evaluation of the tool would be beneficial.

Implications for Nursing

It was found that a group of Air Force nurses incorporate the role functions of case management into their current practice. That these nurses could do this without advanced education in case management supports the view that nurses are well-suited to the role of case manager. That nurses who had no knowledge of case management were using the role functions suggests this new role is based on

nursing process and practice. This usage lends support to the views of Cohen and Cesta (1993) and Zander (1988a) that case management mirrors the nursing process and grew out of the primary nursing model. Nurses understand and use case management. This research supports nursing's claims of expertise and experience for assuming the role of case manager. Further studies such as this one, and comparison studies of nurses and other professions currently practicing the case management role, could provide the necessary support to answer the question of who should be the case manager. Implementation of case management in the Air Force Medical Service would benefit from placing nurses in this role.

It is also significant that the nurses surveyed identified nurses who were experienced and possessed graduate level education as a good choice for case managers. This is consistent with the current literature. Strassner (1996) acknowledged that the issue of educational preparation of the case manager is still one of controversy. He stated the American Nurses Association recommends a nurse with a baccalaureate degree and three years clinical experience as a minimum preparation for the role of case manager, but that other authors recommend an advanced practice nurse with master's level education. Further, he reported that "in my discussions with nine academic medical centers, all cited the bachelor of science degree as the

minimum educational preparation for the case manager, and master's degree as the preferred preparation level" (p. 25). The Air Force considers the bachelor of science degree to be the entry level of practice in the AF Nurse Corps. Implementing case management with the graduate level prepared nurse would keep the Air Force Medical Service in line with civilian recommendations and take advantage of the already large (35%) portion of the Nurse Corps who are master's prepared. Providing case management education to the graduate level nurse could be less costly in time and money as these nurses have nursing experience and are educated in the concepts of advanced nursing practice. These concepts include the five role areas of the clinical nurse specialist: clinical expertise, educator, researcher, executive, and consultant (Trinidad, 1993).

Nursing education in case management should be provided in all registered nursing curricula. Entry level programs should introduce the concepts and basics of a case management system and the role skills, characteristics, and experiences needed. Graduate level curricula should incorporate case management, managed care, business skills (networking, marketing, team-building, collaboration, etc), and reimbursement of healthcare into the core knowledge. Nugent (1992) wrote that nurses are the critical link in the healthcare team and that a nurse as a case manager is the "logical choice" (p. 108). She furthered her

recommendations to state that the clinical nurse specialist has the advanced knowledge, experience and preparation to assume the role of the case manager. Davies and Hughes (1995) stated:

> optimizing client care is the overriding priority for advanced nursing practice (APN)....The APN maintains client care as a primary focus, continues to excel in complex practice situations, and articulates and demonstrates how advanced nursing practice makes a difference (p. 160).

Schools of Nursing can incorporate case management curricula into their programs in both clinical nurse specialist and nurse practitioner as it is appropriate in both. Advanced programs that provide practical experience and mentoring by experienced case managers should also be provided to those nurses who wish to specialize as a case manager.

Schools of Nursing should be proactive in assuming the leadership for community education in case management by developing and providing continuing education programs that address the practice of case management. Programs could be offered to many systems that could benefit from case management, such as hospital systems (corporations), community health clinics, long-term care facilities, and advanced practice nurses who wish to incorporate case management into their own practice. Case management curricula could also focus on specialty areas. Obstetrics, orthopedics, pulmonary diseases, cardiac surgery, end-stage renal disease, gerontology, diabetes, and critical care are examples of specialty case management programs. Education

will provide the groundwork needed by today's nurses to prove their worth as case managers.

The nurses responding to the survey gained their knowledge of case management from reading nursing literature. These nurses were predominantly entry level nurses who might not be expected to read specialty literature. Nursing authors should continue to publish on case management but would do well to ensure that accurate and informative articles are included in the "popular" nursing literature that would be read by this group.

Implementing a Case Management Program

Successful implementation of case management requires a solid, well-conceived plan that includes assessment of the existing system, targeting of patient populations, creation of multidisciplinary working groups, education of staff, training of new case managers, and evaluation of the program. A good educational program is necessary for both staff and the new case managers. All staff need to understand why a facility has chosen to develop case management, the philosophy of the program, concepts of case management, the case manager's role and job description, and potential outcomes. This can decrease any confusion that may be felt when change occurs, or defuse disputes over "territory". Education and advance preparation can also increase the numbers of providers who see the potential benefits of the new program, allowing a smoother

introduction with greater cooperation (Cohen & Cesta, 1993).

In addition to the staff education, an indepth, comprehensive educational program should be provided for the case managers. Providing the time and resources to introduce the concepts, business practices, patient-care needs, and roles of case management prior to program implementation can help to ensure the success of the program. Providing education and training for the new case manager could decrease the initial discomfort that comes with a new position and ease role transition. It should not be assumed by an organization that nurses come into the new position of case manager with all the knowledge, skills, and training needed to perform the role. Rather, an organization should develop formal education (beyond that taught in schools of nursing) based on programs with documented success. A selected literature review of successful case management education programs should be done to establish the curriculum base and indicate areas of knowledge that may need to be presented by outside experts (Cardinal, Kraushar, & Wagie, 1994).

Well-trained case managers and support staff can make a tremendous difference to the patient in a case-managed system. Patients will benefit from the time and effort devoted to a thoroughly educated staff who exemplify cooperation, collaboration, and effective and timely use of available resources. Patients will be ready for discharge

or transfer to another type facility with all needed care in place, contributing to a seamless continuum of care.

Complete and comprehensive education of case managers is invaluable to an institution or system of healthcare restructuring with case management. The educational process provides the groundwork for practices that can lead to excellence. Most nurses have not practiced in a case management role, including those educated at the master's level (Cohen & Cesta, 1993). Facilities and patients alike will benefit from nurses who receive educational training in the role and process of case management.

The Air Force Medical Service leadership can do a literature search for program content, or can hire outside experts to provide the content. The decision on whether outside experts are needed would depend on the expertise and talent available within the Air Force Medical Service, and the familiarity of individuals with case management principles and practice. It is also important to provide an introductory educational program for all support staff. This will increase collaboration and understanding. Program content should be tailored to the facility and the type of case management to be instituted. All of these measures will build a strong program that should be successful for both patients and staff. In addition, the AF Nurse Corps could design and implement a program of core case management knowledge and philosophy appropriate to the Air Force

Medical Service. The case management course could be taught at one facility such as the 382nd Training Squadron at Sheppard Air Force Base, where the Air Force provides it's own healthcare education and training courses. This could have a dedicated education staff that have personal knowledge of case management and would instruct small groups of nurses who are sent in-residence to attend a 2 to 3 week course, ensuring that all Air Force case managers incorporate the same knowledge base.

Implementation of case management and use of nurses as case managers would provide a new clinical role for the AF Nurse Corps. Currently the only advanced clinical role available to AF nurses is the role of clinical nurse specialist. Brigadier General Stierle notes that "over 35 percent of the Nurse Corps is masters prepared" but that "everyone prepared with a clinical masters will not necessarily step into a clinical nurse specialist role due to resourcing constraints" (Stierle, 1995). Air Force nurses are aware of the limited clinical career ladder. This was reflected in comments by the respondents such as:

> (1) Nurses would have an opportunity for career progression; and, on the same hand, will maintain the AF Nurse Corps with the current trends on nursing practice in the civilian community.
>
> (2) I believe instituting case management into Air Force hospitals would be a wonderful idea, not to mention it would keep the Air Force up to date and in line with the outside.

(3) AF nurses know the system better than contracted civilian nurses. It is a great opportunity for experienced nurses to make a real difference.

The role of case manager would provide a second avenue for nurses with experience and clinical expertise to remain "at the bedside".

The AF Nurses Corps has struggled with the issue of keeping experienced nurses at the bedside. Most facilities have placed senior nurses in the role of "house" or "shift" supervisor. This has made their experience available to junior nurses, but has not served the need of role model and mentor for clinical experience as these supervisors are essentially administrative personnel. Clinical nurse specialists are used in some Air Force MTFs, but usually serve a very large department, reducing their availability to the staff nurses. Case managers could help provide the needed clinical experience, role modeling, and mentoring the senior management of the AF Nurse Corps seeks.

Summary of Study

Air Force nurses are using case management role functions in their current practice. The nurses have a working knowledge of case management and would like to see Air Force nurses become the case managers for their patient populations. Nursing could have a significant impact in reducing costs, lengths of stay, and confusion that now exists in the Air Force Medical System.

Nursing can play a major role in the future of military healthcare by being proactive in assuming this new role of case manager. Nurses with advanced education can and should be encouraged to stay at the bedside and in clinical practice. Case management provides a new and exciting role for clinical nursing--one that honors the historical traditions, philosophies, and beliefs that nursing is based upon.

Nursing case management is the realization of professional nursing practice. Case management blends the nursing process of assessment, planning, implementation, and evaluation with the advanced nursing practice roles of clinical expert, educator, researcher, manager, and consultant. The nurse has long been the generalist of healthcare concerned with the patient first, and foremost. Nursing case management has placed issues important to the profession of nursing in front of payers, providers, and consumers. Nursing should take the opportunities that case management offers to the profession and build them into the future models and practice of nursing.

The question Why nurses as case managers? can be answered by the research presented in this thesis. Nurses practice the case management role functions in their daily practice. The role functions are familiar and understood. Nurses may need education in the process and management

aspects of case management, but they require little in the way of instruction in the role functions and skills.

Case management has the potential to transform the present practice of healthcare into a new era of patient-centered care traversing providers and systems with a seamless continuum. Patient satisfaction and quality outcomes are increased with case management. Nursing satisfaction is increased and costs of providing care in money, resources, and time have been decreased. Nursing case management will reshape both the futures of nursing practice and healthcare delivery.

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APPENDIX A

NURSING CASE MANAGEMENT ROLES SURVEY

NURSING CASE MANAGEMENT ROLES SURVEY

PLEASE INDICATE YOUR ANSWERS TO THE FOLLOWING QUESTIONS BY MARKING THE APPROPRIATE BOX. SOME ANSWERS MAY REQUIRE A SHORT WRITTEN RESPONSE IN THE SPACE INDICATED.

1. What is your current rank?
   1. 2Lt [] 4. Major []
   2. 1Lt [] 5. LtCol []
   3. Capt [] 6. Col []

2. What is your highest level of Nursing education?
   1. AD [] 4. PhD, DNSc []
   2. BS or BSN [] 5. Other_____
   3. MS or MSN []

3. What is your current job title?

_____

4. What patient population do you primarily care for?
   1. Adult, medical inpatients []
   2. Adult, medical outpatients []
   3. Adult, surgical inpatients []
   4. Adult, surgical outpatients []
   5. Adult, medical-surgical outpatients []
   6. Adult, primary care patients []

5. How long have you been in your current job?
   1. less than 6 months []
   2. 6 months, but less than 1 year []
   3. 1 year, but less than 2 years []
   4. 2 years, but less than 3 years []
   5. 3 years or more []

6. How many inpatient beds are in your Military Treatment Facility?
   1. Less than 20 []
   2. 21 to 50 []
   3. 51 to 100 []
   4. 101 to 250 []
   5. 251 or more []

7. Are you familiar with the concept of Nursing Case Management?
   yes [] no [] (if you answered no, please proceed to #9)

8. If you answered yes, how did you gain your knowledge of Nursing Case Management?
   1. Reading nursing literature []
   2. Reading other literature []
   3. Inservice program []
   4. Educational offering/course []
   5. Other_____ []

THE FOLLOWING QUESTIONS ARE RELATED TO YOUR CURRENT JOB FUNCTIONS AND ARE IDENTIFIED ROLES OF NURSING CASE MANAGEMENT AS FOUND IN THE CURRENT LITERATURE (Bower, 1992; Cohen & Cesta, 1993; Trinidad, 1993).

ANSWER EACH QUESTION BASED ON YOUR CURRENT PRACTICE WITH PATIENTS. PLEASE CONSIDER YOUR OVERALL USE OF THE FOLLOWING ROLES.

PLEASE CIRCLE YOUR RESPONSE

TO AID YOU IN YOUR CHOICES THE FOLLOWING ARE GUIDELINES:
SELDOM=25% OCCASIONALLY=50% FREQUENTLY=75%

9. How often do you identify patients who require additional services/resources outside your treatment area?

never seldom occasionally frequently always

10. How often do you perform individual assessments of patients' needs, goals, and/or support systems?

never seldom occasionally frequently always

11. How often do you act to coordinate patient care or services by contacts with other providers or departments? This could include referrals, consultations, and/or arranging for appointments, supplies and/or services.

never seldom occasionally frequently always

12. How often do you collaborate with other providers or team members on patient treatment plans? This could include arranging for and participating in multidisciplinary care conferences.

never seldom occasionally frequently always

13. How often do you provide or coordinate patient education?

never seldom occasionally frequently always

TO AID YOU IN YOUR CHOICES THE FOLLOWING ARE GUIDELINES:
SELDOM=25% OCCASIONALLY=50% FREQUENTLY=75%

14. How often do you provide or coordinate family education?

never seldom occasionally frequently always

15. How often do you provide discharge planning?

never seldom occasionally frequently always

16. How often do you act as a source of information on your patients' overall care needs and/or health status to other providers and team members?

never seldom occasionally frequently always

17. How often do you assist in developing the patients' plans of care by consultation with patients, families and/or providers?

never seldom occasionally frequently always

18. How often do you monitor and document the delivery of your patients' care and/or treatments?

never seldom occasionally frequently always

19. How often do you monitor your patients' progress towards care goals?

never seldom occasionally frequently always

20. How often do you reassess changes in patients' health status?

never seldom occasionally frequently always

21. How often do you identify exceptions to the plan of care?

never seldom occasionally frequently always

TO AID YOU IN YOUR CHOICES THE FOLLOWING ARE GUIDELINES:
SELDOM=25% OCCASIONALLY=50% FREQUENTLY=75%

22. How often do you initiate actions to solve the exceptions to the plan of care?

never seldom occasionally frequently always

23. How often do you serve as a patient advocate?

never seldom occasionally frequently always

24. How often do you serve as a family advocate?

never seldom occasionally frequently always

25. How often do you contact patients and/or families for follow-up information after discharge or clinic visits?

never seldom occasionally frequently always

26. How often do you evaluate patient outcomes?

never seldom occasionally frequently always

27. How often do you evaluate program outcomes?

never seldom occasionally frequently always

FOR THE FINAL QUESTION PLEASE PROVIDE YOUR OPINION BASED ON YOUR EXPERTISE WITH YOUR PATIENT POPULATION.

28. What are your thoughts and opinion on instituting case management using Air Force Nurses as Case Manager? Please consider your current patient population.

Please write additional comments:

APPENDIX B

COVER LETTER TO SUBJECTS

2 Jan 96

Dear Air Force Nurse:

I am a fellow Air Force nurse currently completing an AFIT-sponsored graduate nursing degree at the University of Colorado Health Sciences Center. I am conducting a survey on the use of nursing case management role functions by Air Force nurses. The results of this research will be used in my master's thesis.

I would like to invite you to answer the enclosed survey. It will take approximately 15 minutes of your time to complete. There are no risks or benefits to you in completing this survey and your participation is completely voluntary, but very important!

Your answers will remain confidential and your name or identification is not requested or obtained by other means. The results of this research will be shared with other health care providers in a scholarly manner. As required by AFIT, a copy of the completed thesis will be sent to HQ AU/SGN.

Attached to the survey is a self addressed, stamped envelope for you to return the survey. Please return the completed survey by **February 10, 1996.**

Please feel free to contact me if you have any questions about the survey or would like to comment on my research. Thank you so much for your time and effort in helping me to complete my degree requirements.

Sincerely,

Molly J. Kusik, Capt, USAF, NC
University of Colorado Health Sciences Center
School of Nursing
4200 East Ninth Avenue C-288
Denver, Colorado 80262

PLEASE RETURN COMPLETED QUESTIONNAIRES TO:

Molly J. Kusik
3922 S. Ensenada Ct
Aurora, CO 80013
(303) 766-8120

APPENDIX C

COLORADO MULTIPLE INSTITUTIONAL REVIEW BOARD LETTER

COLORADO MULTIPLE INSTITUTIONAL REVIEW BOARD

Office of the COMIRB

Room 1810C
Campus Box C-290
4200 East Ninth Avenue
Denver, Colorado 80262
(303)270-8081
FAX (303) 270-8540

Participating Institutions

The Children's Hospital
Colorado Prevention Center
Denver Health & Hospitals
University of Colorado Health Sciences Center
Department of Veterans Affairs Medical Center, Denver
University Hospital

TO: MOLLY J. KUSIK BOX C288 DATE: 12-12-95

FROM: COLORADO MULTIPLE INSTITUTIONAL REVIEW BOARD

YOUR APPLICATION ENTITLED: "USE OF CASE MANAGEMENT ROLE FUNCITONS BY AIR FORCE NURSES"

COMIRB PROTOCOL NUMBER: 95-681

Has been unanimously approved by the COMIRB 12-12-95 which includes your protocol and consent form/revised consent form. The COMIRB will require a follow up on the status of this project within a 12 month period from the date of approval unless a restricted approval applies. If you have a restricted or high risk protocol, specific details will be spelled out with a special set of instructions. We shall send you a form to be completed to define the status of your project.

The investigator bears the responsibility for obtaining from all patients and subjects "Informed Consent" as approved by the COMIRB.

It is also your responsibility to inform the COMIRB immediately of any deaths, serious complications or other untoward effects of this research.

Please notify the COMIRB if you intend to change the experimental design in any way.

As of July 1, 1983, the COMIRB REQUIRES that the subject be given a copy of the consent form which includes the name and telephone number of the investigator.

Any questions about the COMIRB's action on this project should be referred to the Secretary Desiree Fernandez or Vicky Starbuck (270-8081 or UCHSC BOX C-290).

Adam Rosenberg, M.D.
Victor Spitzer, Ph.D.
Chairmen
Colorado Multiple Institutional Review Board

Rev 10/95

APPENDIX D

REQUEST FOR APPROVAL TO SURVEY FEDERAL PERSONNEL

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE PERSONNEL CENTER
RANDOLPH AIR FORCE BASE TEXAS

2 November 1995

MEMORANDUM FOR AFIT/XOX
ATTN: MS HOUTZ

FROM: AFPC/DPSAS
550 C Street West, Ste 35
Randolph AFB TX 78150-4737

SUBJECT: Request for Approval to Survey Federal Personnel (Capt Kusik)

The survey submitted on behalf of Capt Kusik is approved for use with Air Force nurses. Recommend she revise the response options to question 5 to read, "Less than 6 months, 6 months but less than 1 year, 1 year but less than 2 years, 2 years but less than 3 years, 3 years or more." Also recommend she number the survey questions consecutively rather than beginning with question 1 again on page 2.

A survey control number of USAF SCN 95-109 is assigned and expires on ~~31 Dec 95~~ 1 Jun 96. Questions regarding this action can be addressed to me at DSN 487-5680.

CHARLES H. HAMILTON
Chief, Survey Branch

Spoke with Charles Hamilton on 9 Nov 95 at 1204. Authorization received to do pen-and-ink change to memorandum for survey control date. New date of 1 Jun 96. No further correspondence will be needed.

Molly J. Kusik

APPENDIX E

COVER LETTER FOR SENIOR NURSE EXECUTIVES

2 January 1996

MEMORANDUM FOR: LT COL CONSTANCE WHORTON (or designee)
9 MED GP/SGN
15301 WARREN SHINGLE ROAD
BEALE AFB CA 95903-1907

FROM: Capt Molly J. Kusik
3922 S. Ensenada Ct
Aurora, CO 80013
303-766-8120

SUBJECT: Survey of active duty nurses

I am currently completing an AFIT assignment at the University of Colorado Health Sciences Center in Adult Health Nursing, with a specialization in nursing case management. I would appreciate your assistance in the collecting of my thesis research. My thesis topic is to gather data on the familiarity with, and use of case management role functions by Air Force nurses using a paper-and-pencil, self-administered questionnaire.

My survey has been approved for use by AFMPC (survey control number 95-109), AFIT, and the University Institutional Review Board. The survey was pilot tested by a panel of nurses who are currently practicing as nurse case managers and a faculty member who instructs the case management course. Their input was that the survey accurately reflects their current professional role functions and practice.

I selected your facility to receive questionnaires by dividing the current list of AF hospitals by bedsize into five groups. A random choice was then made from within each group by someone other than myself. This method resulted in a random group of facilities that were representative of the AF healthcare system. I am sending the surveys, cover letters to respondents, and stamped self-addressed envelopes to your office for distribution to nurses who fit the sample profile. I ask that you, or someone of your choosing, see that my surveys reach these nurses.

Respondent criteria: Any active duty Air Force nurse who:

1. cares for adult patients (over 18 years of age)
2. patients must be medical and/or surgical (no OB, OR, or Psych)
3. nurse may be any rank, and may possess any nursing educational level
4. nurses may work in inpatient or outpatient settings

5. the nurses may be in any clinical role (may include Nurse Managers)

In the cover letter I have indicated that all responses are confidential, voluntary, and I do not seek the names of the respondents. The pilot group of nurses completed the survey in less than 15 minutes, so very little time is needed. I am requesting that the surveys be returned to me NLT 10 Feb 96 so that I may tabulate results, complete my thesis, and defend by mid-April. I hope to find that Air Force nurses are familiar with the role functions, the frequency with which they use the role functions in practice, which role functions are most- and least-familiar, and depending on the results, what areas of education would need to be given to nurses entering this new role. I would be happy to answer any questions you have about this research and to provide you with the results if you wish.

Please contact me at the above number if you have any comments or questions. Your nurses will also have my phone number if they have any comments or concerns about completing the survey. Thank you very much for helping me to complete my degree requirements.

MOLLY J. KUSIK, Capt, USAF, NC

APPENDIX F

FOLLOW-UP LETTER

4 February 1996

MEMORANDUM FOR: COL MADSEN
74 MED GP/SGN
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FROM: Molly J. Kusik, Capt, USAF, NC
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SUBJECT: Use of Case Management Role Functions Surveys

I would like to thank you for your assistance in helping me to obtain my thesis research data. Your help has been invaluable. The questionnaires I have received so far have documented that Air Force nurses are familiar with the case management role functions and use them frequently in practice.

As of today's date I have received 6 of the 12 questionnaires I sent to your facility. If possible, please remind your nurses of the need to return the surveys by February 10 so that my research will accurately reflect these nurses' viewpoints and experience. Also, extend my thank you to these nurses for their time and valuable input.

Molly J. Kusik, Capt, USAF, NC